Pre-FS Scoping Discussion

WILCOX OIL COMPANY, BRISTOW, OK

JUNE 5, 2020

90103880

Purpose

Provide Site Background Information

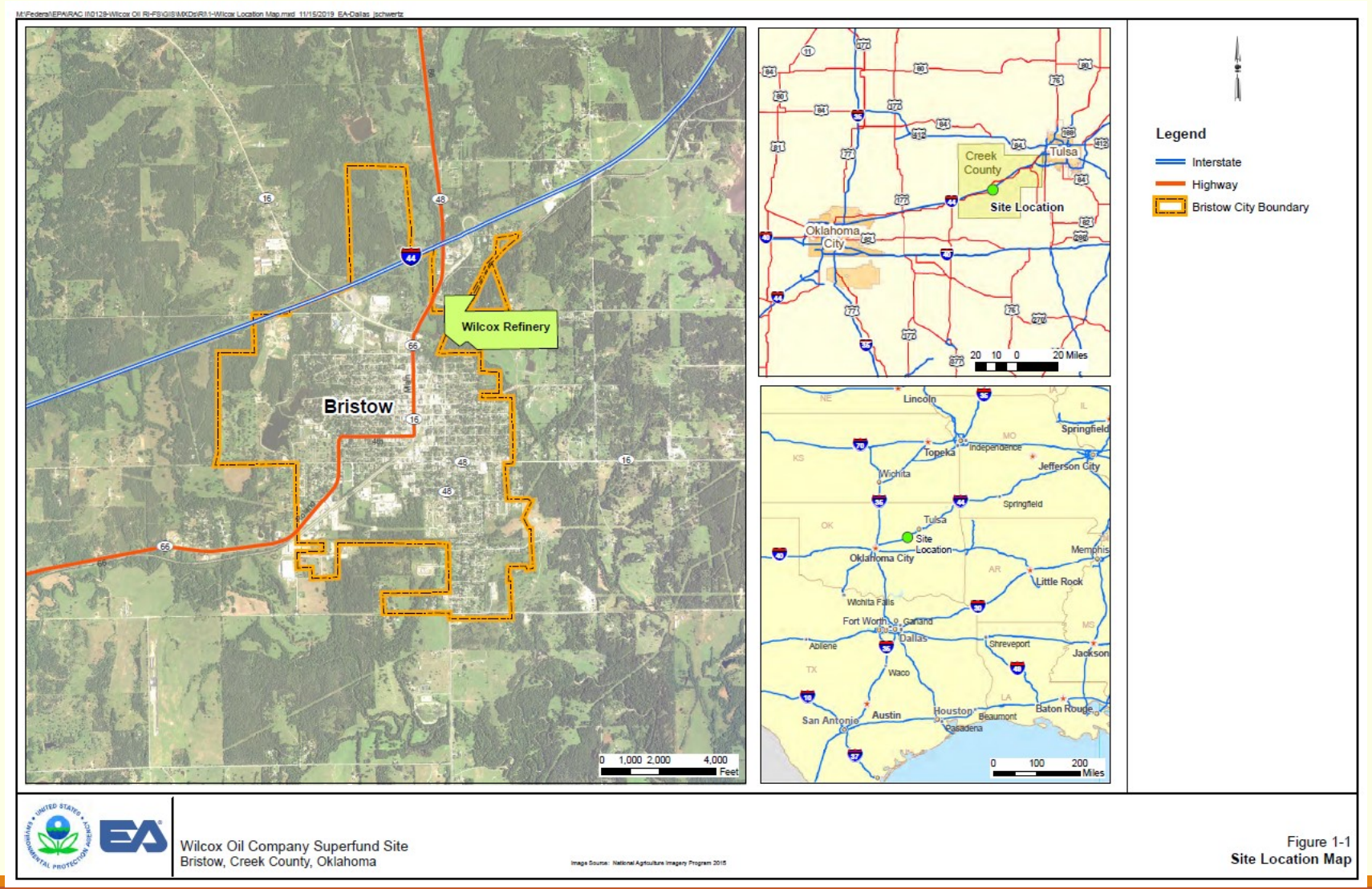
Present the Site Characteristics

Present the Risks

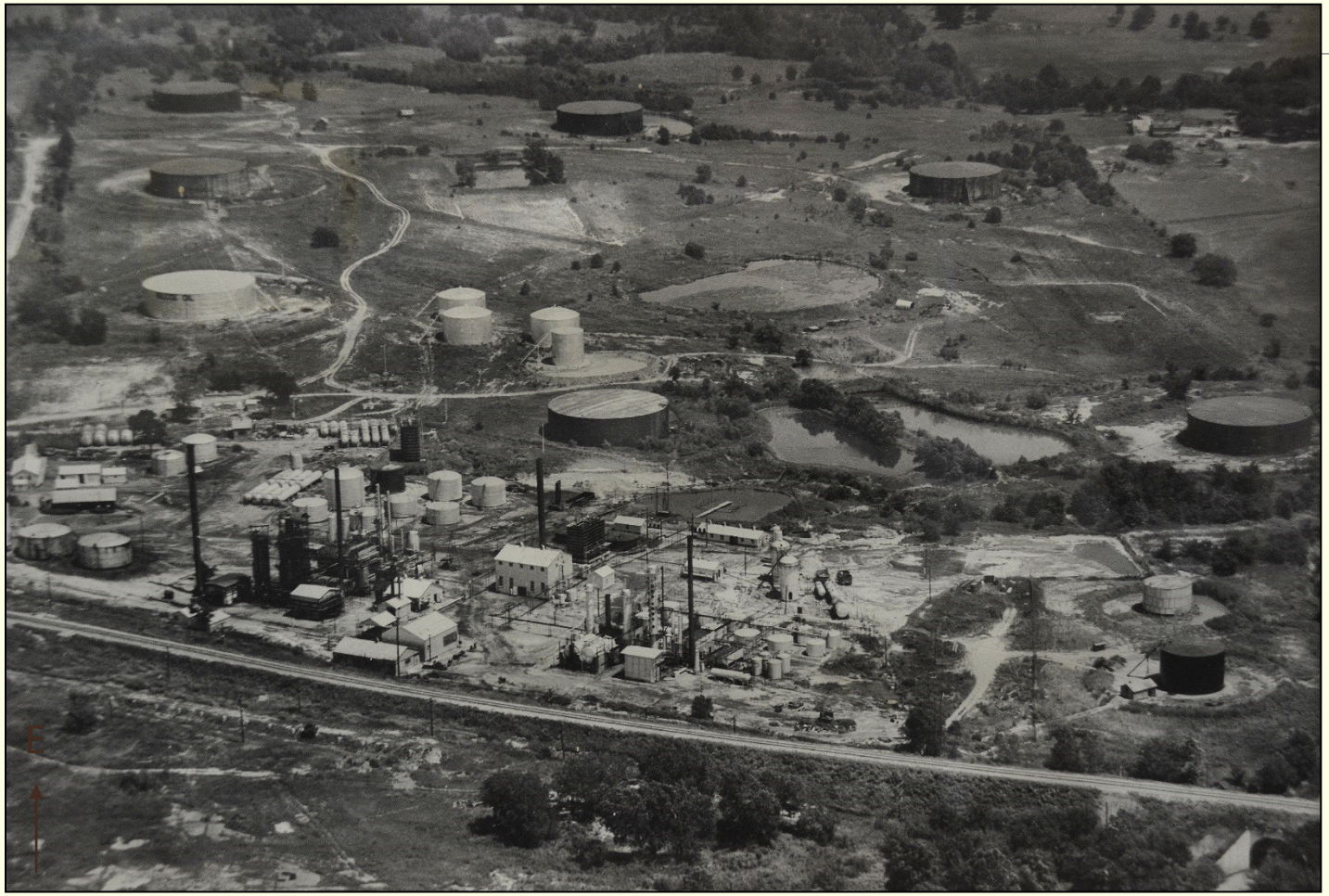
Present the Cleanup Alternatives Considered

Agree on focus moving forward

Site Location



Site Background



1950s Aerial Photograph

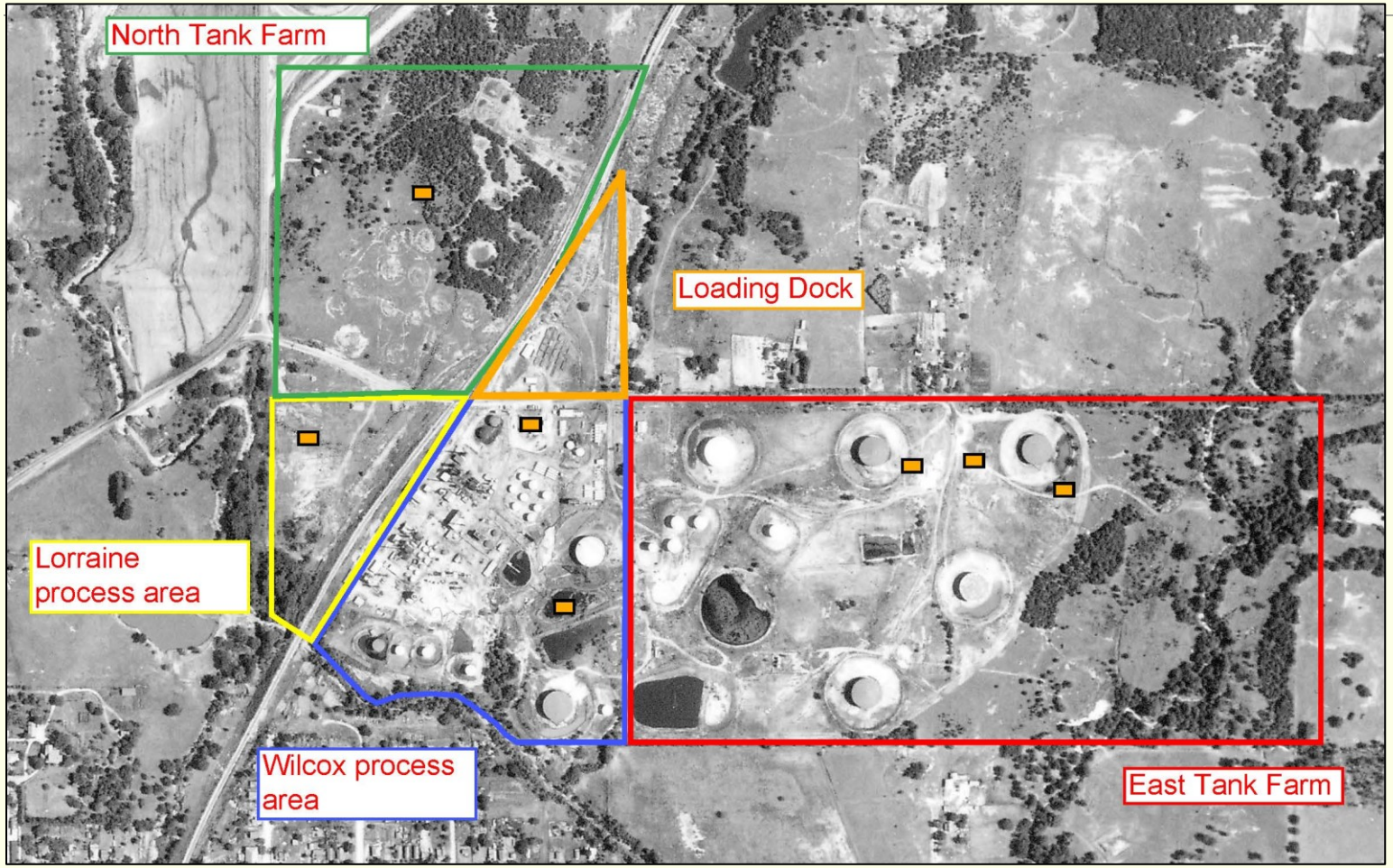
Operation:
Oil Refinery

Activity Period:
1915 through 1963

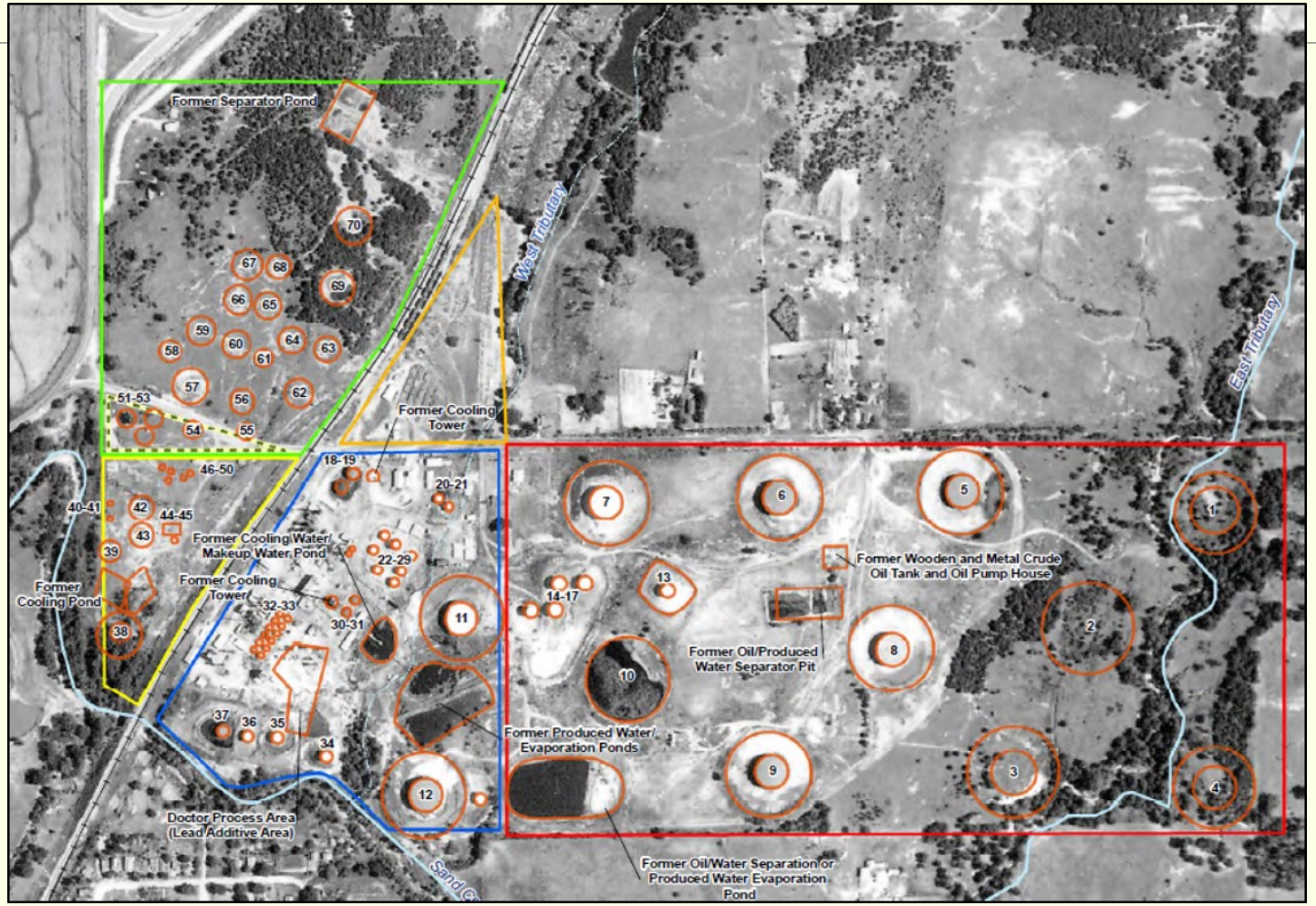
Size:
about 140 to 150 acres

Listed:
December 12, 2013

Remedial Investigation – 5 Operation Areas



Remedial Investigation – Facility Features



Remedial Investigation – Sources

Source Identification

- Tank waste
- Lead Additive Area

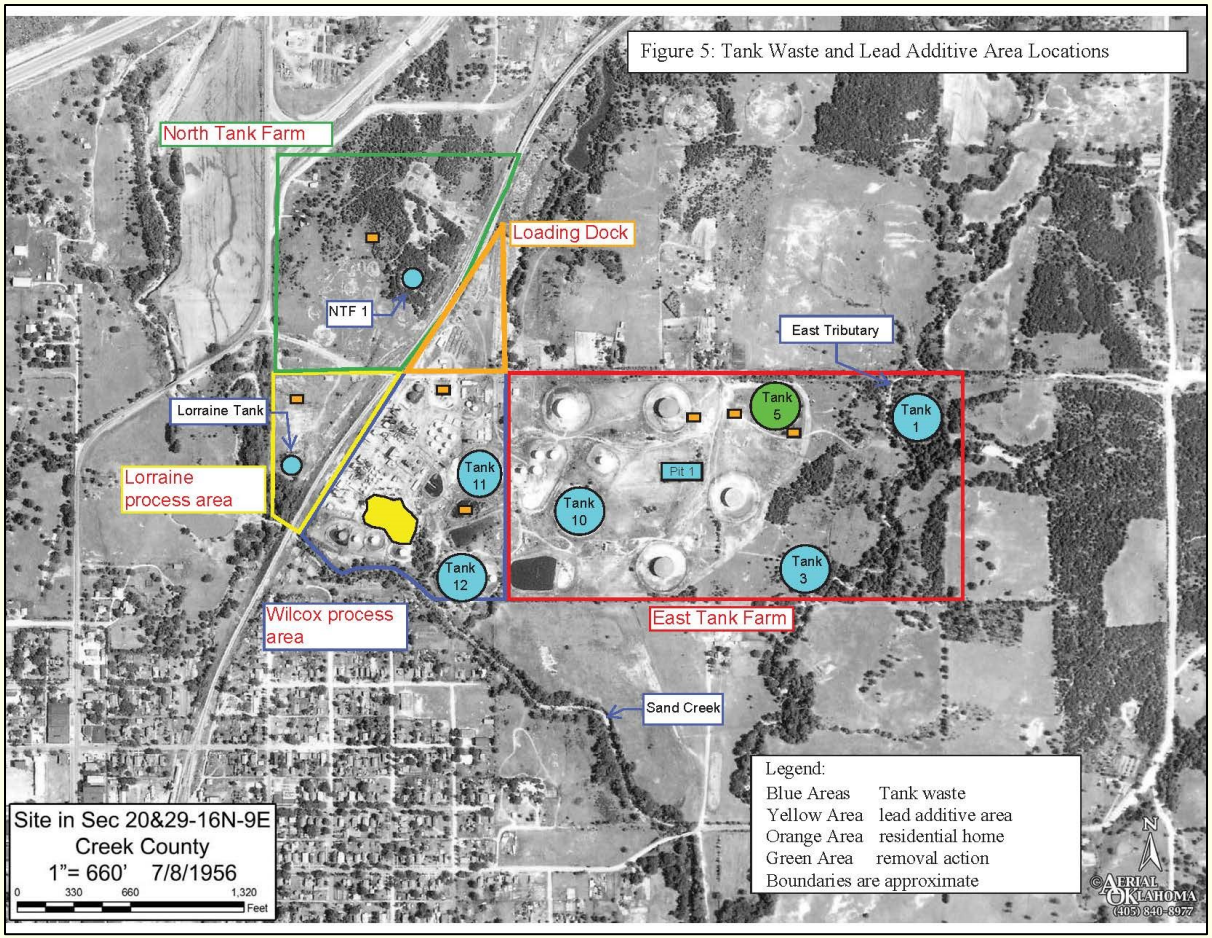
Interim/Early Action

Excavation, Treatment, and Offsite Disposal : Tank Waste and Lead Additive Area

Benefits:

- 9 Sources removed
- 5 migration Pathways to the Creek removed
- 4 Residential Properties addressed
- Overall Site Risk Reduction: Human and Ecological

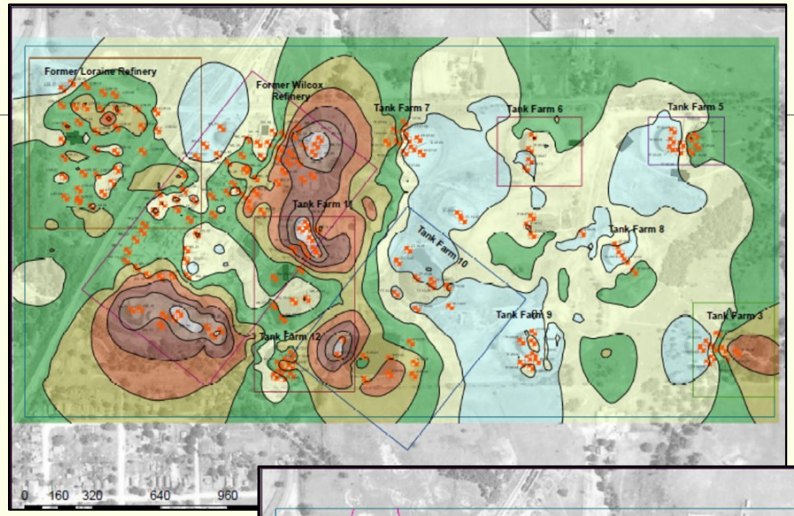
- RD – 2019
- Cost--$5.2M

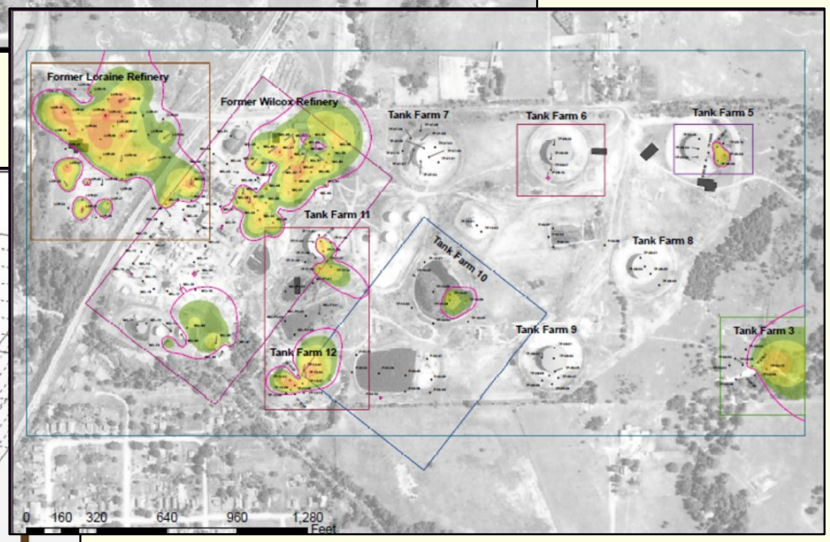


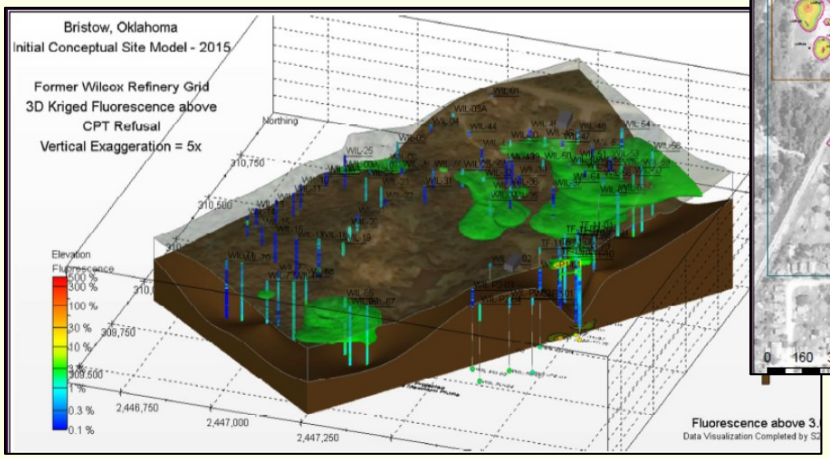
Remedial Investigation – Phase Approach

Phase 1 – Site Screen

- Residential Soil and Ground Water Sampling
- Fencing Waste Areas
- Geophysics
- Direct Sensing



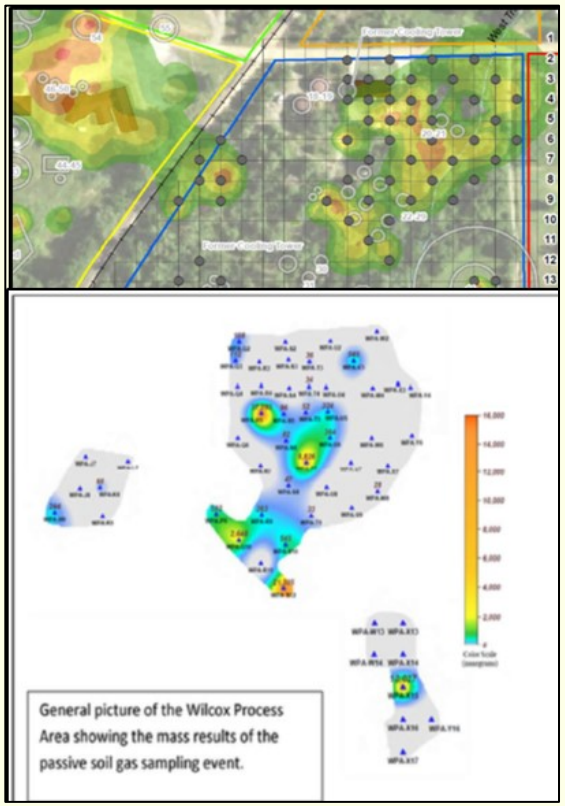


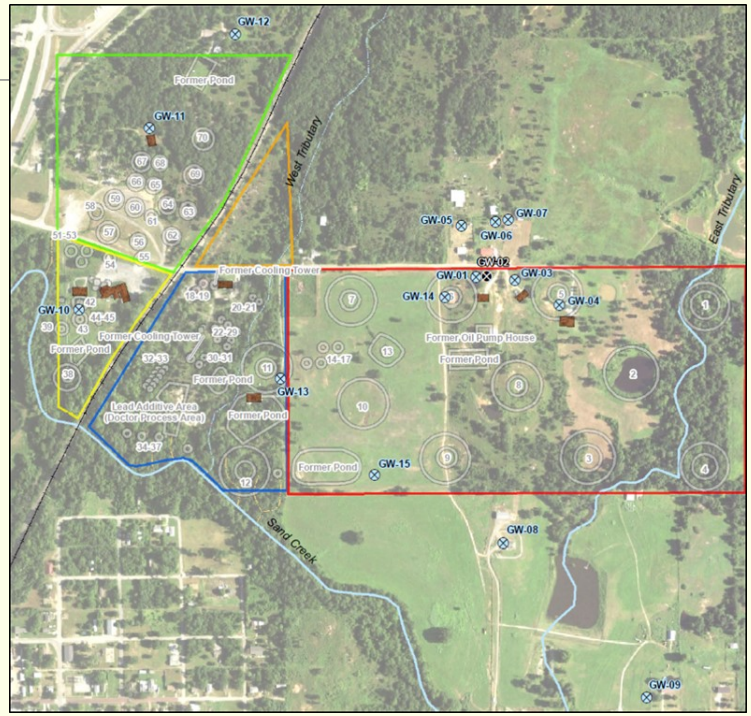


Remedial Investigation – Phase Approach

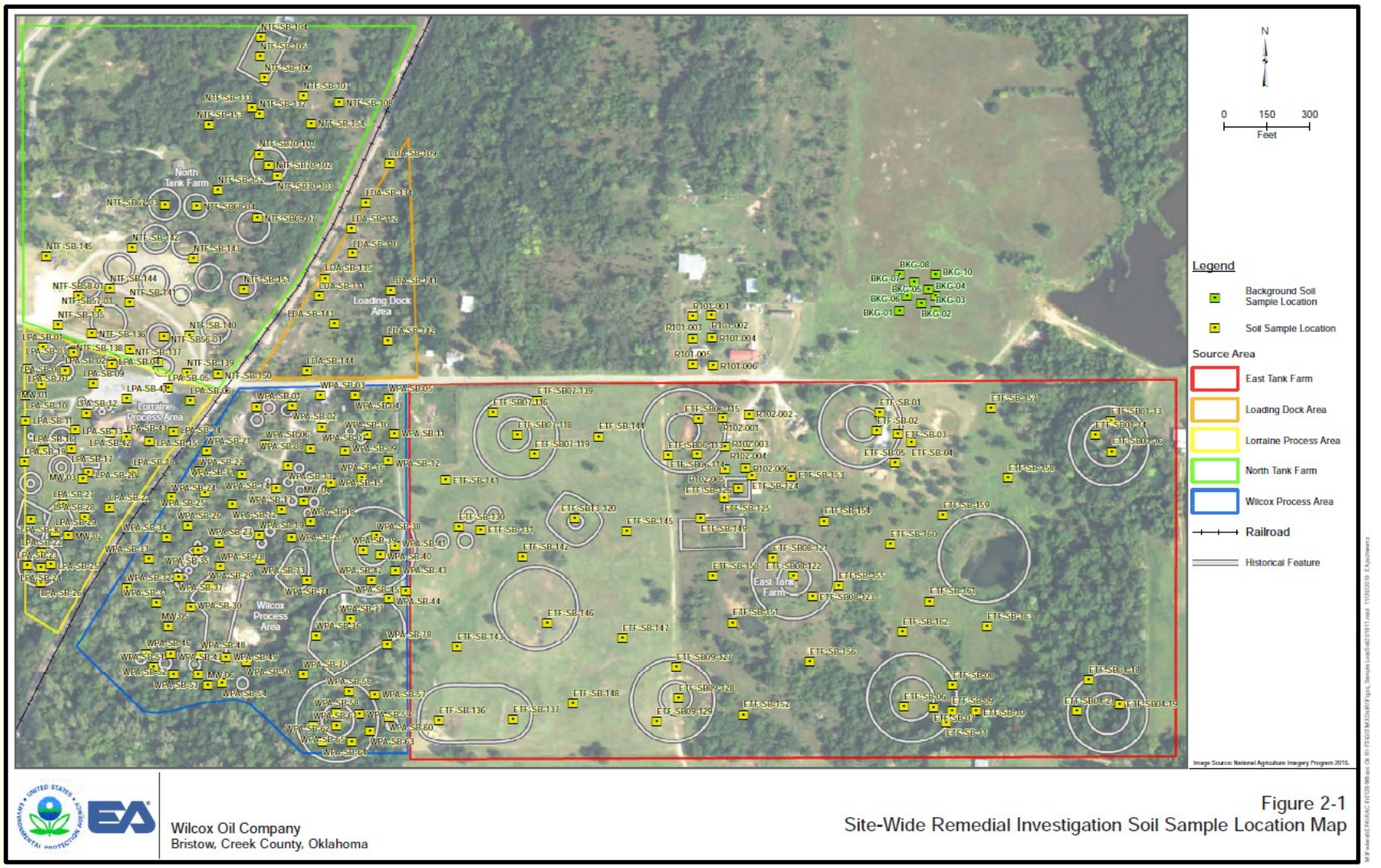
Phase 2 – Data Collection over multiple field events

- Ground water
- Soil gas and indoor air





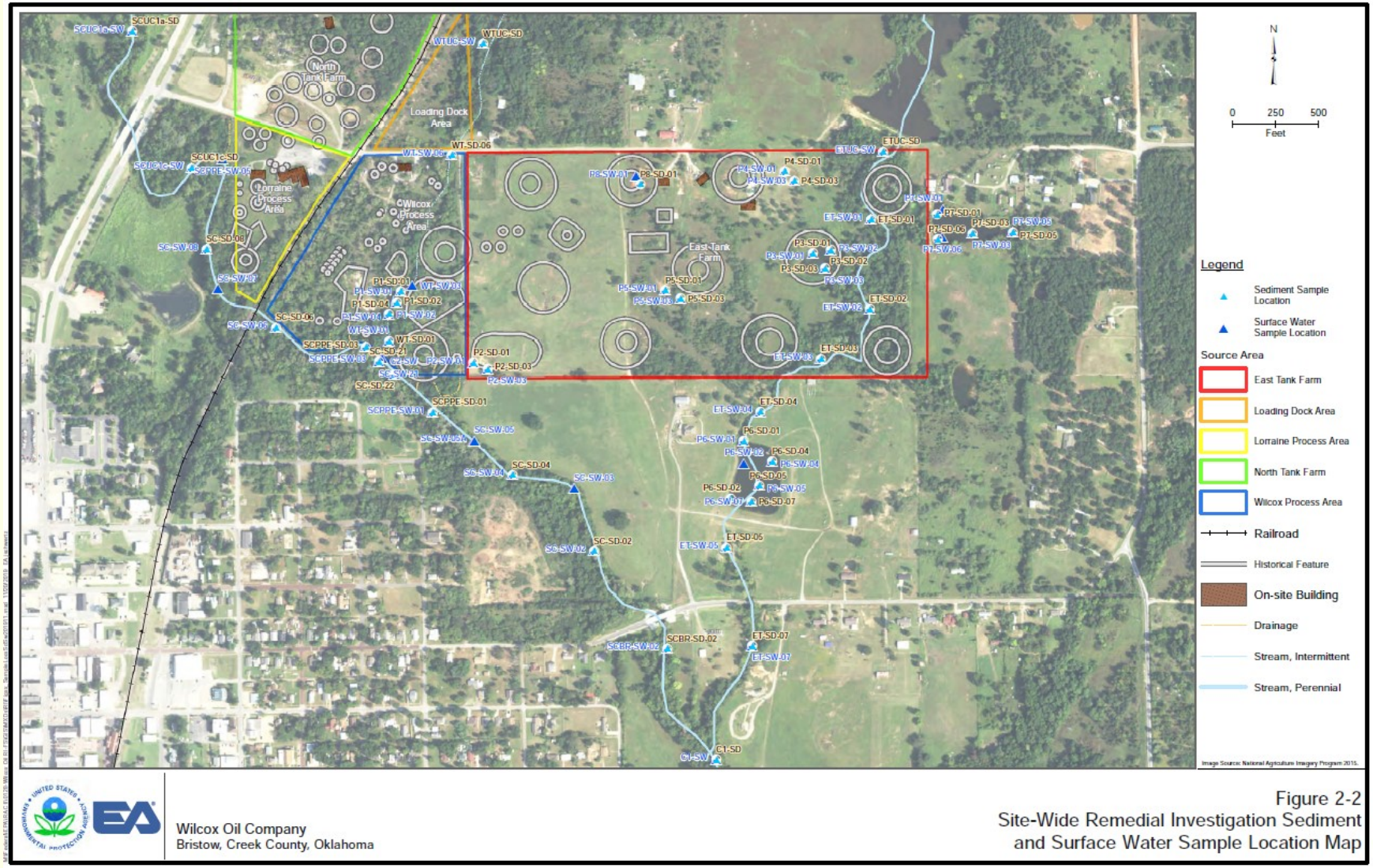
RI– Soil



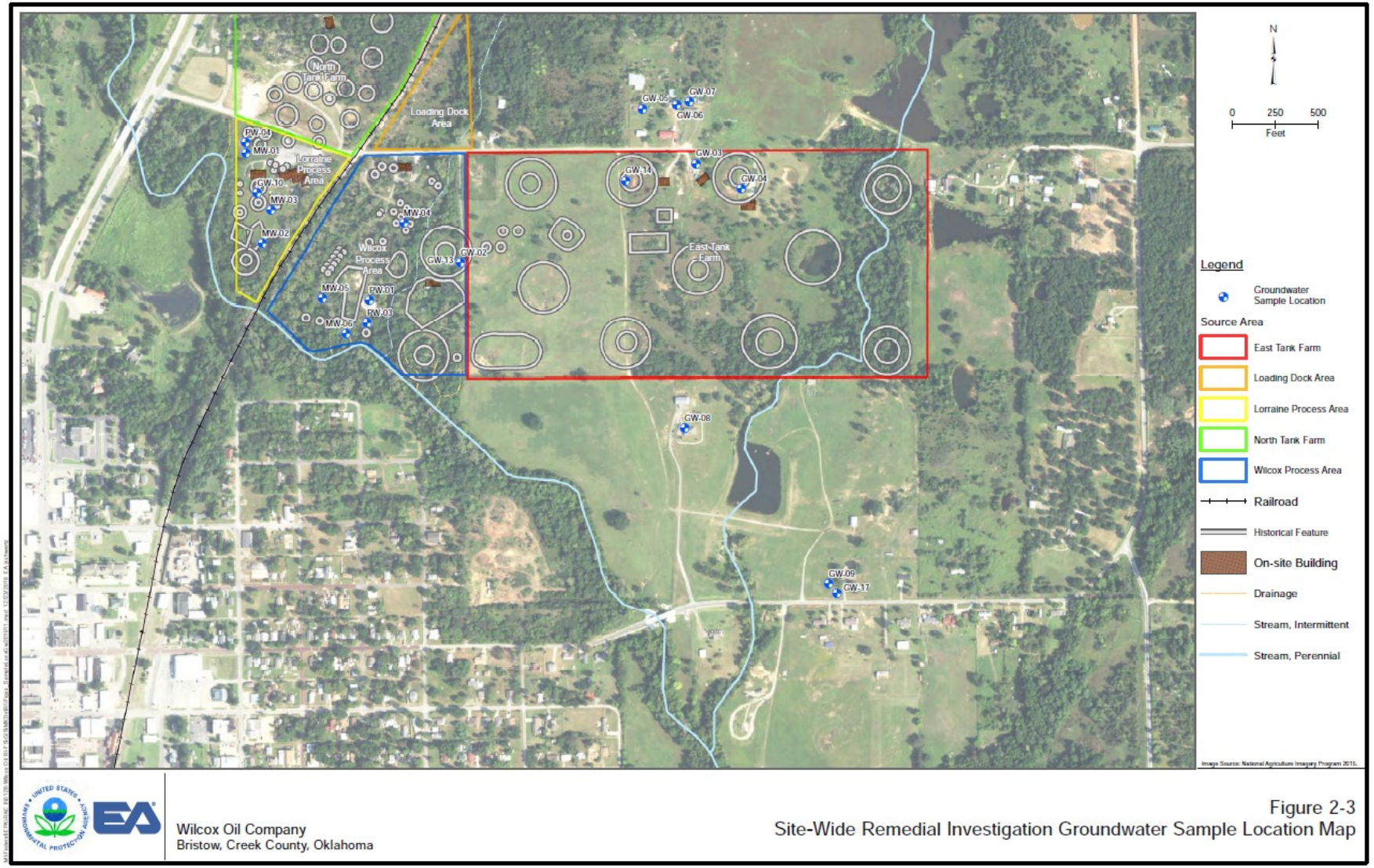
Wilcox Oil Company
Bristow, Creek County, Oklahoma

Figure 2-1
Site-Wide Remedial Investigation Soil Sample Location Map

RI: Surface Water and Sediment



RI: Ground Water Wells



Wilcox Oil Company
Bristow, Creek County, Oklahoma

Figure 2-3
Site-Wide Remedial Investigation Groundwater Sample Location Map

No Unacceptable Risks Identified

SURFACE WATER	SEDIMENT	INDOOR AIR
Resident (adult/child)	Resident (adult/child)	Resident (adult/child)
Industrial/Commercial Worker	Industrial/Commercial Worker	Industrial/Commercial Worker
Construction Worker	Construction Worker	Construction Worker
Trespasser	Trespasser	Trespasser
ECO	ECO	

Unacceptable Risks Identified

SOIL	GROUND WATER
Resident (adult/child)	Resident (adult/child)
ECO	Commercial/Industrial Worker
	Construction Worker

Non-cancer risks only. All cancer risks fall within or below the risk range. Many Non-Cancer risks are <3.

Remedial Action Objectives

SOIL	GROUND WATER
Prevent human exposure to the soils with concentrations of contaminants of potential concern (COPCs) exceeding the preliminary remediation goals (PRGs)	Prevent or minimize migration of ground water COPCs to drinking water sources
Minimize migration of soil COPCs into the groundwater, surface water, and other site soils	Prevent or minimize migration of groundwater COPCs to the surface water
	Prevent current and future use of the perched groundwater with concentrations of COPCs exceeding groundwater PRGs.

Preliminary Remedial Goals - Soil

Media	PCOC	PRG (mg/kg)	Protective	Source
Soil	Benzo(a)pyrene	3	Resident (??) & Commercial/ Industrial	HHRA
	Lead	200, 400 or 800	Residential or Commercial/Industrial	HHRA
		204	Ecological	ERA
	Copper	285	Ecological	ERA
	Manganese	505	Ecological	ERA
	Vanadium	66	Ecological	ERA
	Zinc	120	Ecological	ERA

Preliminary Remedial Goals - GW

Media	PCOC	PRG (mg/L)	Protective	Source
GW	Arsenic	0.01	Resident & Commercial/ Industrial	MCL
	Naphthalene	0.0017 0.15	Residential Commercial/Industrial	HHRA HHRA
	Benzene	0.005	Resident & Commercial/ Industrial	MCL
	1,2 Dichloroethane	0.005	Resident & Commercial/ Industrial	MCL
	Ethylbenzene	0.7	Resident & Commercial/ Industrial	MCL

Technology Screen - Soil

RETAINED

General Response Action	Remedial Technology Type	Process Option
No Further Action	None	None
Institutional Controls	Access and Use Restrictions	Land Use Controls
Containment	Consolidation and Capping	Clay Cap, Synthetic Membrane, or Chemical Sealant or Stabilizer
Removal	Excavation and Disposal	Excavation and Onsite Disposal
		Excavation and Offsite Disposal

EXCLUDED

General Response Action	Remedial Technology Type	Process Option
Treatment	*Ex situ* Physical, Chemical Treatment	Excavation and Chemical Oxidation
		Excavation and Soil Mixing and Stabilization/Solidification
		Excavation and Soil Washing
		Excavation and Thermal Treatment
	In Situ Treatment	Landfarming
		In Situ Stabilization/Solidification
		Phytoremediation

Technology Screen – Ground Water

RETAINED

General Response	Remedial Technology Type	Process Option
No Further Action	None	None
Institutional Controls	Access and Use Restrictions	Land Use Controls
Monitoring	Monitored Natural Attenuation (MNA)	Monitoring
Treatment	In situ Biological Treatment	Enhanced Aerobic Bioremediation

EXCLUDED

General Response Action	Remedial Technology Type	Process Option
Containment	Vertical Barriers	Slurry Wall
Removal	Removal or Extraction	Pump and Treat
Treatment	In situ Physical, Chemical Treatment	In situ chemical oxidation (ISCO)
		Air Sparging
		Thermal Treatment

Alternatives to be Evaluated

Soil

No Action

Excavation and Offsite Disposal/ICs

- Residential scenario or Commercial/Industrial Scenario

Excavation and Onsite Disposal/ICs

- Residential scenario or Commercial/Industrial Scenario

Ground Water

No Action

In-situ Bioremediation

- Residential scenario or Commercial/Industrial Scenario

Monitoring/ICs

- Residential scenario or Commercial/Industrial Scenario

Monitored NA – no data (??)

Maps